

IV. AMENDMENTS TO THE CLAIMS

1.- 5. (Canceled)

6. (Currently Amended) ~~The A dental articulator as set forth in claim~~
~~5~~comprising:

a lower frame (23) provided with a lower jaw model supporting portion
(21) in its upper surface, wherein a lower jaw model (20) is detachably mounted
on said supporting portion (21) through one of height-control means (16, 24, 40,
43);

a stand portion (30) disposed upright in a rear portion of said lower frame
(23);

an upper frame (13) capable of performing its opening and closing motion
relative to said stand portion (30), wherein said upper frame (13) is provided with
an upper jaw model supporting portion (11) in its lower surface, wherein an upper
jaw model (10) is detachably mounted on said supporting portion (11) through
another one of said height-control means (16, 24, 40, 43);

wherein said height-control means (16, 24, 40, 43) enables said jaw model
(10, 20) to be displaced vertically without any inclination relative to said frame
(13, 23) and, wherein said height-control means (16, 24, 40, 43) is constructed of
a plurality of circular planar stages (16, 24) which differ from each other in
thickness and detachably mounted on said supporting portion (11, 21) to make it
possible to displace said jaw model (10, 20) vertically without any inclination
relative to said frame (13, 23) when a first one of said circular planar stages (24)
is exchanged for another one different from said first one in thickness.

7. (Currently Amended) ~~The A dental articulator as set forth in claim~~
~~5~~comprising:

a lower frame (23) provided with a lower jaw model supporting portion
(21) in its upper surface, wherein a lower jaw model (20) is detachably mounted

on said supporting portion (21) through one of height-control means (16, 24, 40, 43);

a stand portion (30) disposed upright in a rear portion of said lower frame (23);

an upper frame (13) capable of performing its opening and closing motion relative to said stand portion (30), wherein said upper frame (13) is provided with an upper jaw model supporting portion (11) in its lower surface, wherein an upper jaw model (10) is detachably mounted on said supporting portion (11) through another one of said height-control means (16, 24, 40, 43);

wherein said height-control means (16, 24, 40, 43) enables said jaw model (10, 20) to be displaced vertically without any inclination relative to said frame (13, 23) and, wherein said height-control means (16, 24, 40, 43) is constructed of a plurality of circular plates (40) each disposed between said supporting portion (11, 21) and said circular planar stage (24) and differs from each other in thickness to make it possible to displace said jaw model (10, 20) vertically without any inclination relative to said frame (13, 23) when a first one of said circular plates (40) is exchanged for another one having a thickness different from that of said first one.

8. (Currently Amended) ~~The A~~ dental articulator ~~as set forth in claim 5~~comprising:

a lower frame (23) provided with a lower jaw model supporting portion (21) in its upper surface, wherein a lower jaw model (20) is detachably mounted on said supporting portion (21) through one of height-control means (16, 24, 40, 43);

a stand portion (30) disposed upright in a rear portion of said lower frame (23);

an upper frame (13) capable of performing its opening and closing motion relative to said stand portion (30), wherein said upper frame (13) is provided with an upper jaw model supporting portion (11) in its lower surface, wherein an upper jaw model (10) is detachably mounted on said supporting portion (11) through another one of said height-control means (16, 24, 40, 43);

wherein said height-control means (16, 24, 40, 43) enables said jaw model (10, 20) to be displaced vertically without any inclination relative to said frame (13, 23) and, wherein said height-control means (16, 24, 40, 43) is constructed of a calibrated cylinder (43), said calibrated cylinder (43) passing through a through-hole of at least one of said supporting portion-portions (11, 21) to have its front end portion abut on said a circular planar stage (16, 24) so that said circular planar stage (16, 24) is vertically displaced without any inclination relative to said at least one of said supporting portion-portions (11, 21) when said calibrated cylinder (43) is vertically slidably moved in said through-hole of said at least one of said supporting portion-portions (11, 21).

9. (Currently Amended) ~~The A~~ dental articulator as set forth in claim 8 comprising:

a lower frame (23) provided with a lower jaw model supporting portion (21) in its upper surface, wherein a lower jaw model (20) is detachably mounted on said supporting portion (21) through one of height-control means (16, 24, 40, 43);

a stand portion (30) disposed upright in a rear portion of said lower frame (23);

an upper frame (13) capable of performing its opening and closing motion relative to said stand portion (30), wherein said upper frame (13) is provided with an upper jaw model supporting portion (11) in its lower surface, wherein an upper jaw model (10) is detachably mounted on said supporting portion (11) through another one of said height-control means (16, 24, 40, 43);

wherein said height-control means (16, 24, 40, 43) enables said jaw model (10, 20) to be displaced vertically without any inclination relative to said frame (13, 23),

wherein said calibrated cylinder (43) is provided with a vertical scale in its outer peripheral surface and a central threaded hole (44) in its central portion, which threaded hole (44) is threadably engaged with a treaded portion of a stop screw (17, 25), which threaded portion of said stop screw (17, 25) has its front end portion threadably engaged with a threaded hole (16a, 24a) of said circular

planar stage (16, 24), wherein a lateral screw member (45) is threadably engaged with a threaded through-hole of a side portion of said frame (13, 23) to have its front end portion abut against a side peripheral portion of said calibrated cylinder (43) to fix the same (43) to said frame (13, 23) after said calibrated cylinder (43) is displaced by a desired amount relative to said frame (13, 23).

10. (Withdrawn) A method for producing a new denture on the basis of an existing denture (50) comprising an upper existing denture (51) and a lower existing denture (52) by using a dental articulator, wherein said new denture comprises an upper and a lower new denture, wherein said articulator is provided with a height-control means (16, 24, 40, 43) for control in height independently each of an upper jaw model supporting portion (11) of an upper frame (13) and a lower jaw model supporting portion (21) of a lower frame (23), wherein an upper jaw model (10) is detachably mounted on said upper jaw model supporting portion (11) of said upper frame (13) while a lower jaw model (20) is detachably mounted on said lower jaw model supporting portion (21) of said lower frame (23), the method comprising the steps of:

performing a myoplastic operation of said existing dentures (50), in which operation a compound material (61) is applied to each of patient's tissue contact sides of said existing dentures (50), wherein said existing dentures (50) carrying said compound material (61) having been applied thereto are then returned to a patient's oral cavity and modified in shape by said patient's oral cavity to fit said oral cavity;

applying an impression material (62) onto said compound material (61) which has been applied to each of said patient's tissue contact sides of said existing dentures (50) and modified thereby in shape, wherein an impression piece of each of said patient's tissue contact sides of said existing dentures (50) thus modified is obtained by means of said impression material (62);

measuring said impression piece (62) at a plurality of points thereof in thickness to calculate an average value of the thickness of said impression piece (62);

pouring a dental stone material (63) on an impression side of said impression piece (62) of said existing dentures (50) to permit said dental stone material (63) to be set or hardened so that a dental stone negative mold (63) of each of said impressed old dentures (50) is obtained with respect to each of said upper existing denture (51) and said lower existing denture (52);

mounting an occlusion planar plate (70) on said lower frame (23), wherein said upper existing denture (51) is temporarily fixed to an upper surface of said occlusion planar plate (70) and has its dental stone negative mold (63) bonded to a lower surface of said upper jaw model supporting portion (11) of said upper frame (13) through said height-control means (16, 24, 40, 43) by means of gypsum (60);

applying an impression paper (72) to an upper surface of said occlusion plate 70 so that an impression (73) of a dental arch of said upper existing denture (51) is printed on said impression paper (72);

removing said occlusion plate (70) is from said lower frame 23 so that said lower existing denture (52) is mated and combined with said upper existing denture (51) by using a fastening means (75), wherein said lower existing denture (52) thus combined with said upper existing denture (51) has its dental stone negative mold (63) bonded to an upper surface of said lower jaw model supporting portion (21) of said lower frame (23) through said height-control means (16, 24, 40, 43) by means of gypsum (60);

removing said upper existing denture (51) from its said dental stone negative mold (63) so that said upper jaw model (10) constructed of both said dental stone negative mold (63) and said gypsum (60) thus poured thereto is obtained;

removing said lower existing denture (52) from its said dental stone negative mold (63) so that said lower jaw model (20) constructed of both said dental stone negative mold (63) and said gypsum (60) thus poured thereto is obtained;

adjusting in height said supporting portion (11, 21) by using said height-control means (16, 24, 40, 43) with reference to said average value of the

thickness of said impression piece (62) to control an occlusion height of said dental articulator;

removing said lower jaw model (20) from said supporting portion (21) on which said occlusion plate (70) is then mounted, wherein said occlusion plate (70) carries thereon said impression paper (72) having been printed with said dental arch of said upper existing denture (51);

pouring a paraffin wax into said upper jaw model (10) which forms an upper negative gypsum model to produce an upper wax positive model;

softening said upper wax positive model by heating, wherein said upper wax positive model having been thus softened is then inserted into the patient's oral cavity and subjected to an occlusion confirmation process in which said wax positive model is corrected in shape in occlusion action;

replacing wax teeth of said upper wax positive model thus corrected in shape with pre-cast more rigid prosthetic teeth with reference to said dental arch, wherein said prosthetic teeth have been selected by the patient in type, size and shade, so that an occlusion bite piece is prepared, said occlusion bite piece forming a pre-form of said upper new denture;

removing said occlusion plate (70) from said supporting portion (21) of said lower frame (23) so that said lower jaw model (20) is mounted on said supporting portion (21);

a paraffin wax into said lower jaw model (20) which forms a lower negative gypsum model to produce a lower wax positive model;

softening said lower wax positive model by heating, wherein said lower wax positive model having been thus softened is then inserted into the patient's oral cavity and subjected to an occlusion confirmation process in which said wax positive model is corrected in shape in occlusion action; and

replacing wax teeth of said lower wax positive model thus corrected in shape with pre-cast more rigid prosthetic teeth with reference to said dental arch, wherein said prosthetic teeth have been selected by the patient in type, size and shade, so that an occlusion bite piece is prepared, said occlusion bite piece forming a pre-form of said lower new denture.

11. (Withdrawn) The method for producing the new denture on the basis of the existing denture (50) as set forth in claim 10, wherein the method further comprises the steps of;

obtaining a bite (55), which is a negative impression of said existing denture (50) in occlusion arrangement, the step of obtaining said bite (55) being followed by the step of performing said myoplastic operation of said existing dentures (50); and

having said lower existing denture (52) abut on said upper existing denture (51) through said bite (55) thus obtained, wherein said lower existing denture (52) has its dental stone negative mold (63) bonded to an upper surface of said lower jaw model supporting portion (21) of said lower frame (23) by means of said gypsum (60).